Amendments to the Specification:

Please replace paragraph 0038 with the following amended paragraph:

[0038] Rotary valve 140 includes a portion of rotary shaft 142 disposed within guidewire proximal end 124. Rotary shaft 142 comprises, for example, a small-diameter wire of stainless steel, nitinol, or other suitably flexible and strong material. Rotary shaft 142 may comprise a polymeric material such as nylon or Teflon® with good flexibility and sealing properties yet with sufficient torsional rigidity to controllably rotate rotary shaft 142 within hollow guidewire 120. In one embodiment, rotary shaft outer surface 144 slidably contacts a portion of guidewire inner surface 128 within guidewire proximal end 124. In one example, rotary shaft 142 includes flat channel 138 [[146]] formed on a side of rotary shaft distal end 148. As rotary shaft 142 is rotated, one or more inflation holes 160 formed in guidewire sidewall 162 are opened or closed, thereby controlling the flow of inflation fluid 132 through inflation hole 160 and central lumen 122. Hole 160 being closed means being blocked or covered with a movable element of rotary valve 140 to prevent fluid flow through inflation hole 160. When rotary valve 140 is open, fluid is permitted to flow through inflation hole 160 and into or out of guidewire central lumen 122. ~~In another example, flat 146 forms channel 138 in rotary shaft distal end 148, as will be described in more detail below.~~

Please replace paragraph 0042 with the following amended paragraph:

[0042] FIG. 2a shows a longitudinal cross-sectional view of a rotary valve for a balloon catheter in a closed position, in accordance with one embodiment of the present invention at 200. Rotary valve 240 includes rotary shaft first portion 250 disposed within a portion of guidewire central lumen 222 at guidewire proximal end 224. Rotation of rotary shaft 242 opens and closes rotary valve 240 to control flow of inflation fluid 232 into, out of, and through guidewire central lumen 222. Rotary shaft outer surface 244 has rotatable sliding contact with guidewire inner surface 228 and includes flat [[246 or]] channel 238 near rotary shaft distal end 248. Rotary shaft 242 may be rotated within hollow guidewire 220 into one of numerous positions such that flat [[246 or]] channel 238 is aligned, misaligned or not aligned with one or more inflation holes 260 formed in guidewire sidewall 262. When flat [[246 or]] channel 238 is aligned with hole 260, hole 260 is open to allow inflation fluid to flow into and out of guidewire central lumen 222. When flat [[246 or]] channel 238 is misaligned with hole 260, hole 260 is closed by rotary shaft outer surface 244 to prevent inflation fluid from flowing into or out of guidewire central lumen

222. For example, it is desirable to close hole 260 after inflation of balloon 130 to keep balloon 130 inflated while in the body.

Please replace paragraph 0045 with the following amended paragraph:

[0045] FIG. 2b shows a longitudinal cross-sectional view of the rotary valve of FIG. 2a in an open position, in accordance with one embodiment of the present invention. After rotary shaft 242 has been rotated to open inflation hole 260 in guidewire sidewall 262, inflation fluid 232 may be injected through inflation hole 260 and into guidewire central lumen 222. In reverse fashion, inflation fluid 232 may be withdrawn from guidewire central lumen 222 through open inflation hole 260, as may be done to deflate balloon 130, for example. Flat [[246 or]] channel 238 may be included on a side near rotary shaft distal end 248 to allow fluid flow into guidewire central lumen 222 when rotary valve 240 is open.

Please replace paragraph 0048 with the following amended paragraph:

[0048] FIG. 3a, FIG. 3b, FIG. 3c and FIG. 3d show cross-sectional views of rotary valve 340 for a balloon catheter, in accordance with various embodiments of the present invention. FIG. 3a illustrates flat channel 338a [[346]] that is formed by grinding or other cutting operations into a side of rotary shaft 342. When rotary shaft 342 of rotary valve 340 is rotated into the open position shown, flat channel 338a [[346]] aligns with and opens one or more inflation holes 360 in sidewall 362 of hollow guidewire 320. When rotary shaft 342 is further rotated or rotated in an opposite direction clockwise or counterclockwise, flat channel 338a [[346]] misaligns, or is not aligned, with one or more inflation holes 360 such that the cylindrical surface of rotary shaft 342 closes inflation hole 360, preventing flow of fluid through inflation hole 360 and into guidewire central lumen 322. In FIG. 3b, v-shaped channel 338b is formed in a side of rotary shaft 342, allowing fluid to flow through inflation hole 360 in sidewall 362 of hollow guidewire 320 when rotary valve 340 is open. Rotary valve 340 is closed by turning rotary shaft 342 until v-shaped channel 338b is not aligned with inflation hole 360 and the cylindrical surface of rotary shaft 342 closes inflation hole 360, preventing fluid from flowing through inflation hole 360. In FIG. 3c, rectangular-shaped channel 338c is formed in a side of rotary shaft 342 to control the flow of fluid through inflation hole 360. In FIG. 3d, eccentrically positioned circular channel 338d is cut or drilled into a side of rotary shaft 342. Other shapes and sizes of ~~flats 346 and~~ channels [[338]] may be formed into rotary shaft 342 to control the flow of fluid.